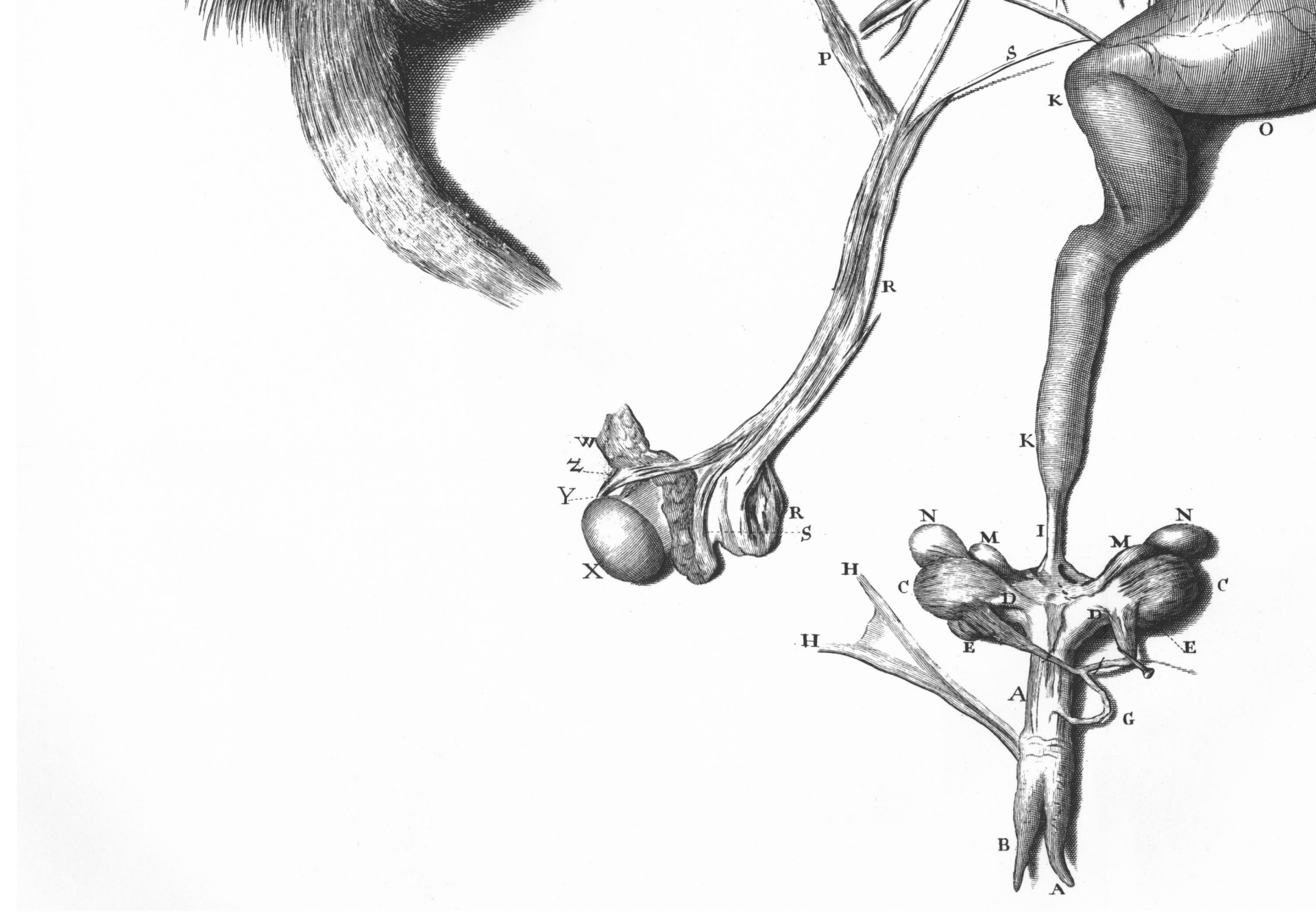
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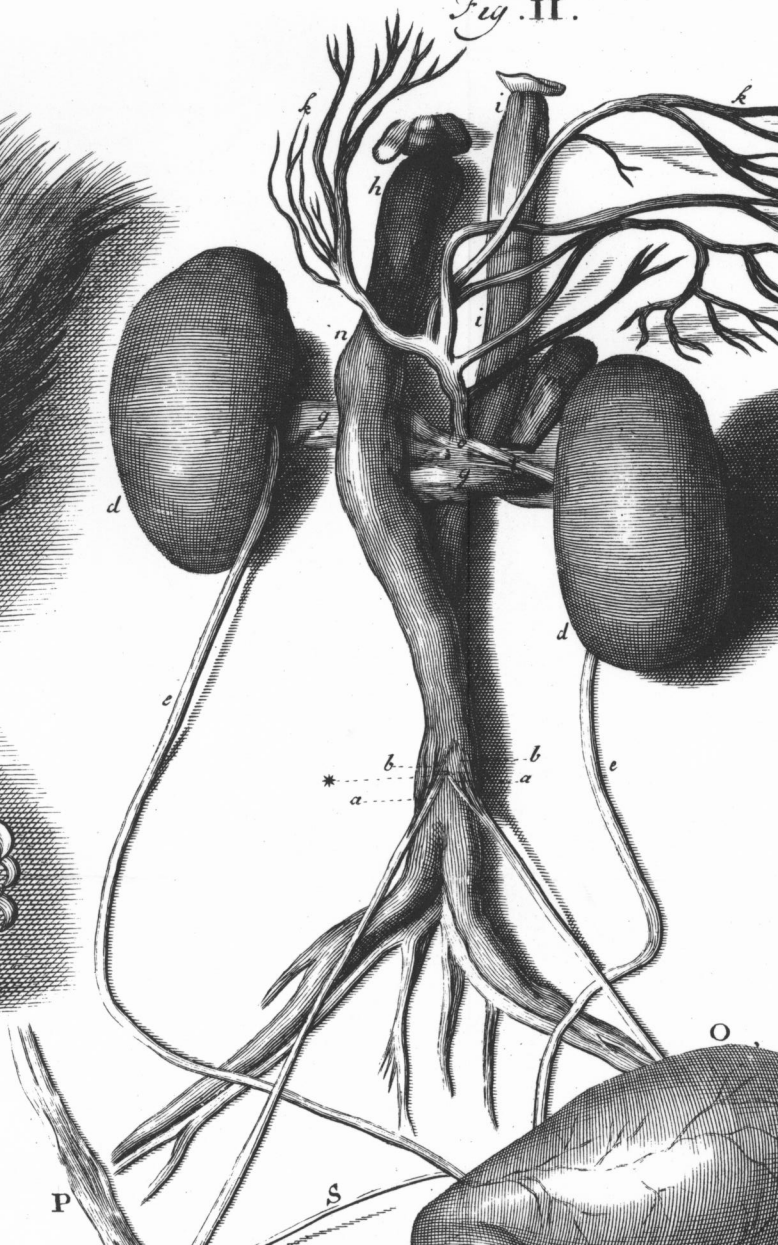
Fig. I.

Fig. II.

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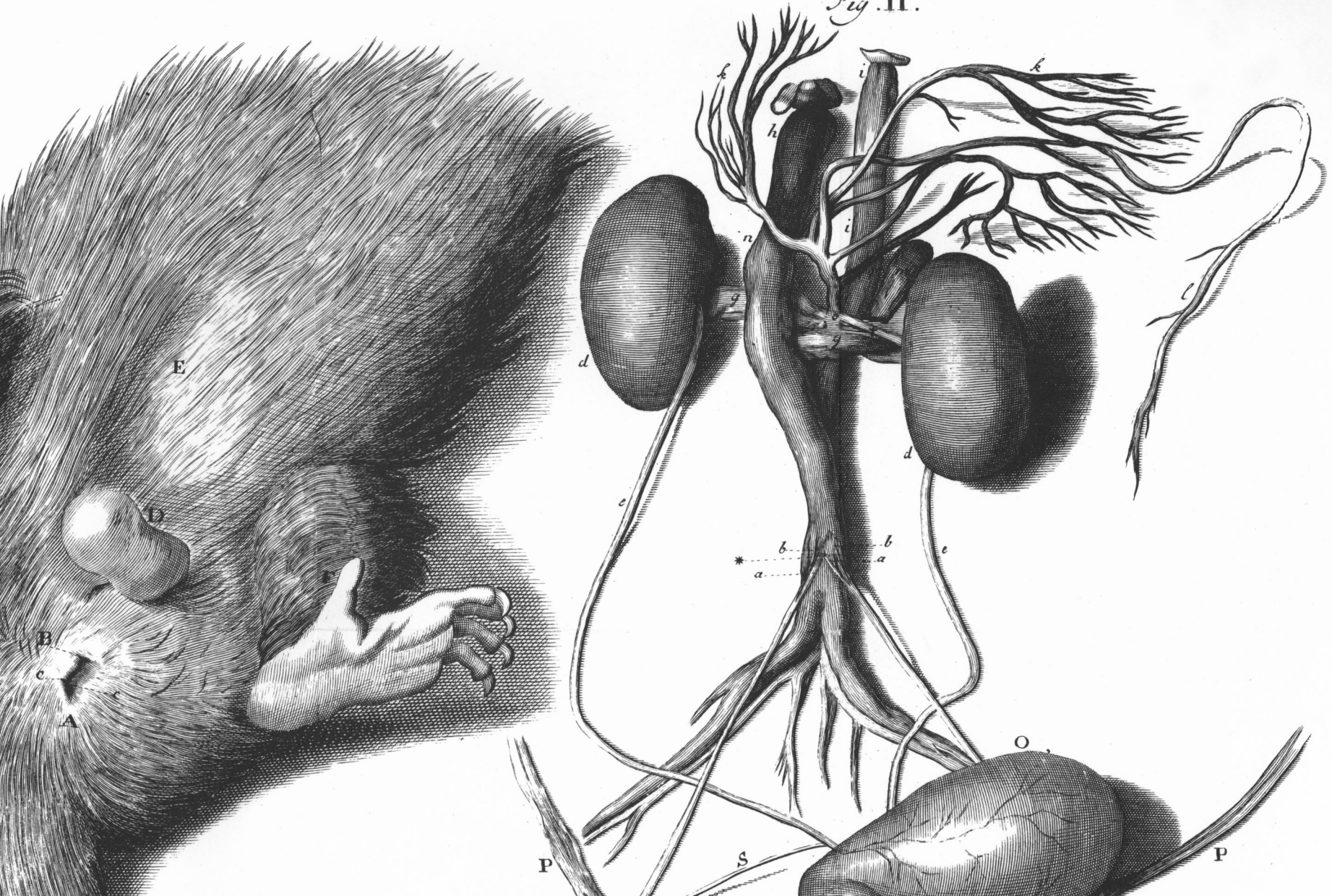

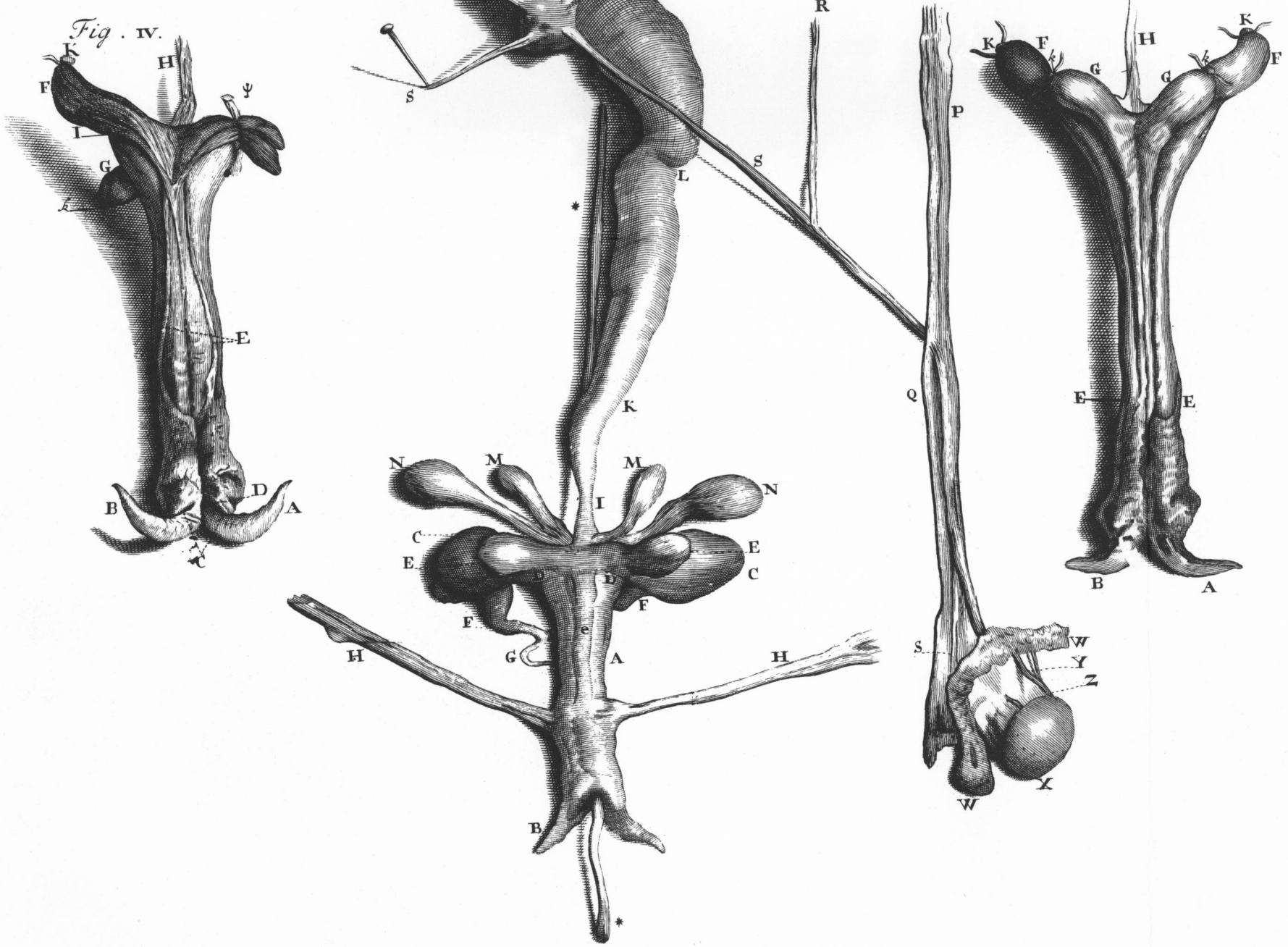
Fig. IV.
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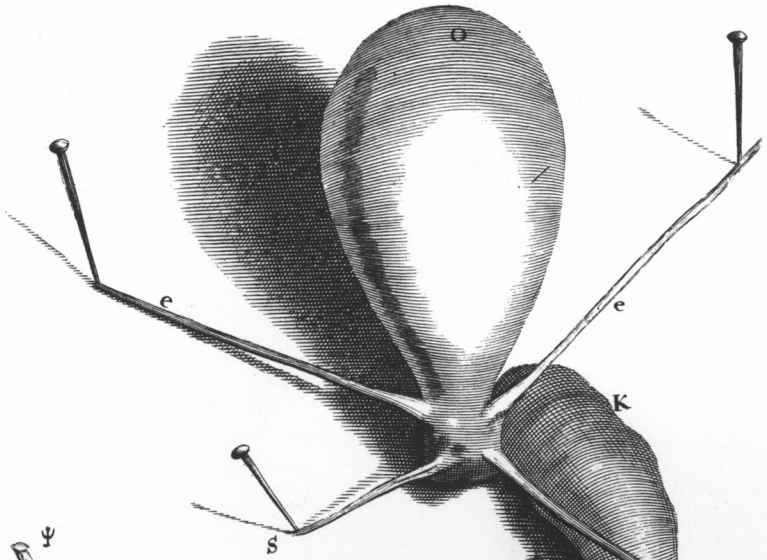
Fig. III.



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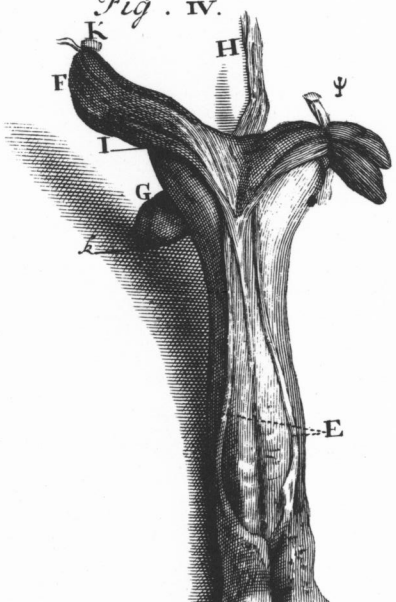


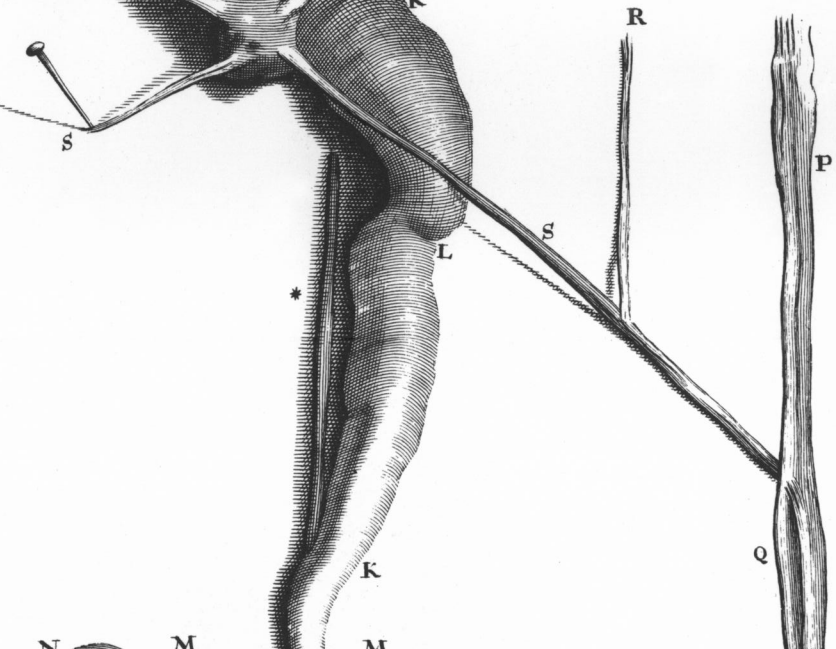
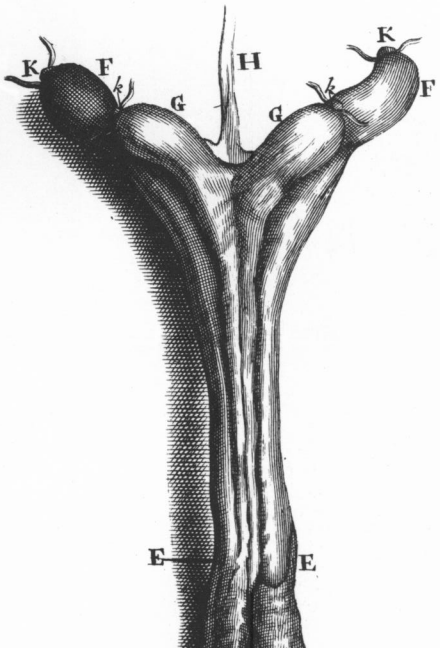


Fig. V.



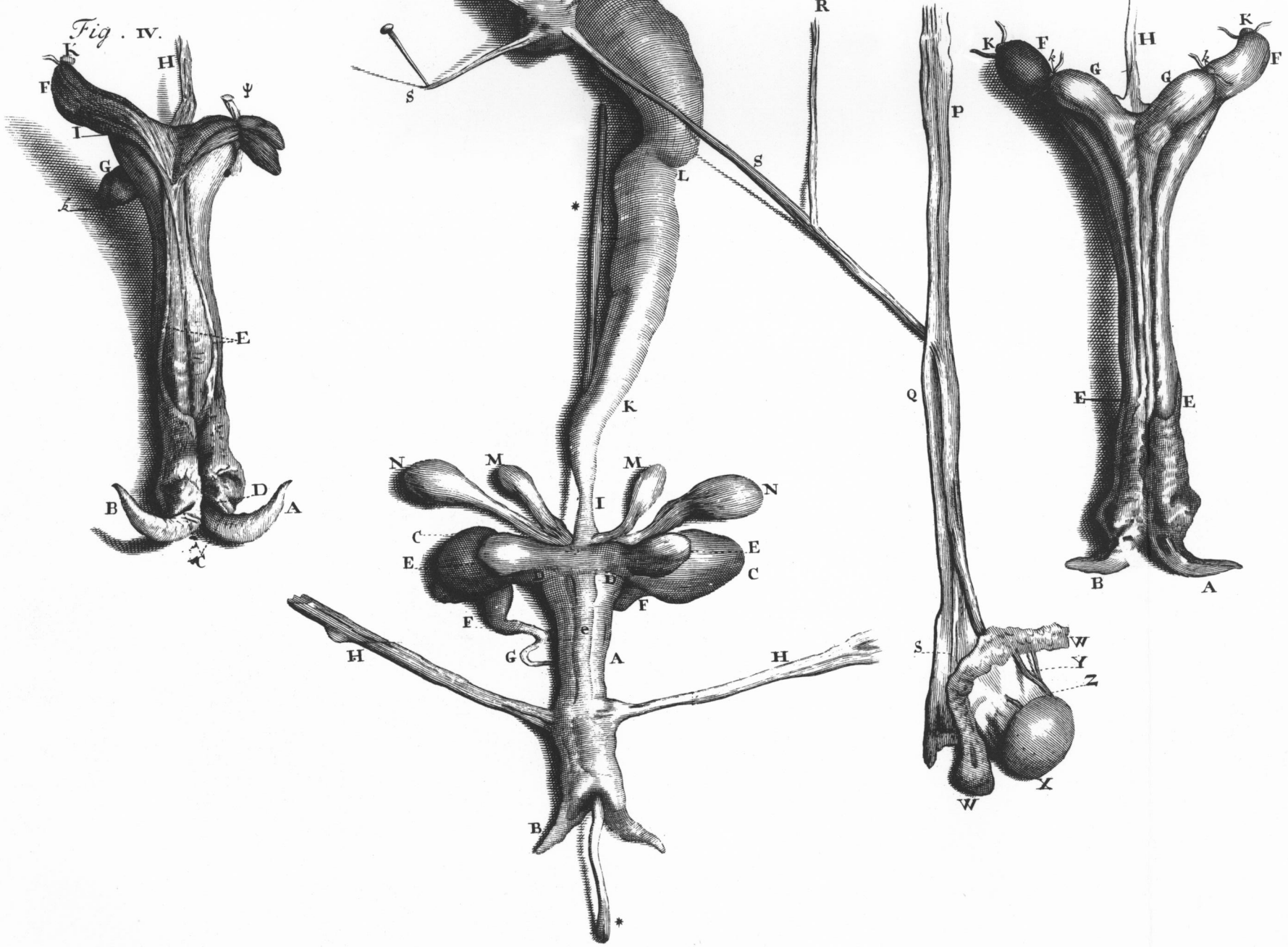

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Fig. III.

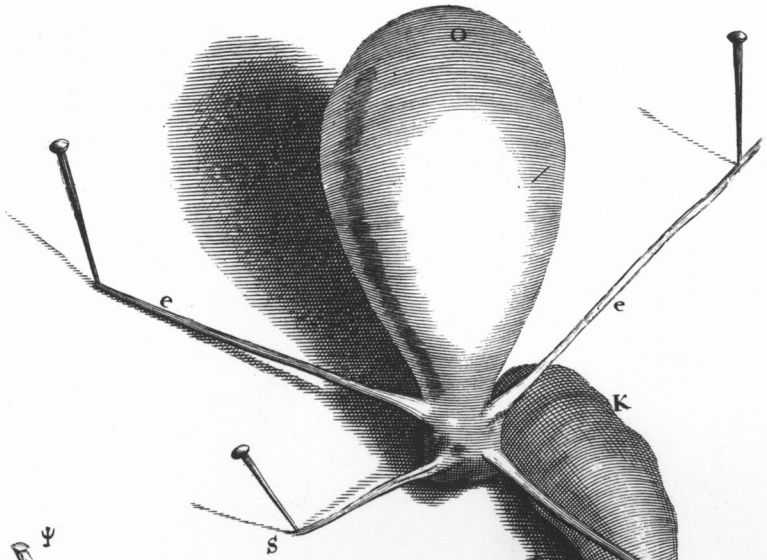
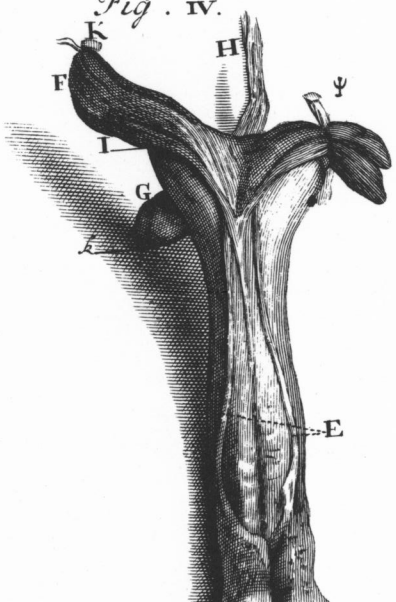


Fig. IV.



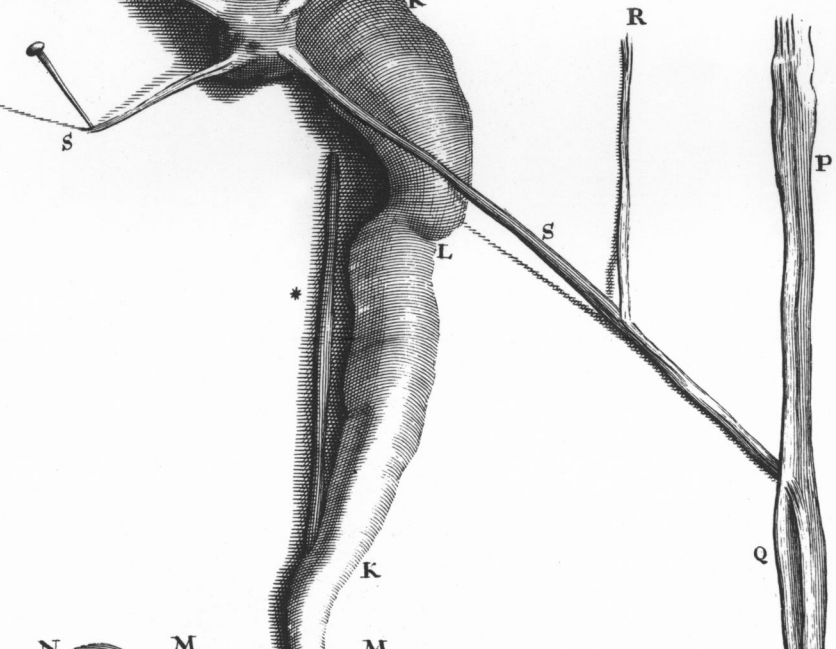
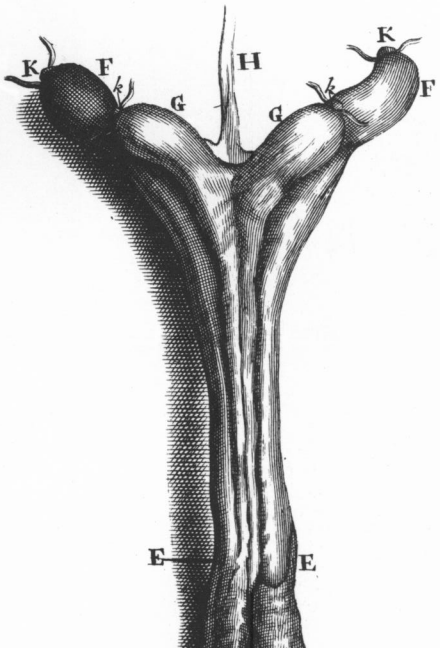


Fig. V.



II. *A Letter to Dr* Edward Tyſon.

Giving an Acconnt of the Anatomy of thoſe parts of a Male Opoſſum *that differ from the Female. By* William Cowper, *F. R. S.*

SIR,

HAd your Account of the *Female Opoſſum* been leſs Accurate, I ſhould not have been tempted to look farther than the Parts that diſtinguiſh the Sexes; for on comparing your Deſcription of the Organs common to both, it was ſufficiently evident how little can be added, tho you had but one Subject to examine.

The ſingular contrivances of that Animals Organs renders the Anatomy of them very deſirable, I may ſay entertaining, to thoſe who have Taſtes for ſuch enquiries.

Comparative Anatomy **(as inſtructive as it is) does not eſcape the Cenſure of the Vulgar; tho you know the greateſt Illuſtrations of the uſe of Parts are not only to be had from thence, but the very exiſtence of divers Organs in Human Bodies have been made known to us by Diſcoveries firſt made in the Bodies of Quadrupeds. The Circulation of the Bloud, and the Paſſages for the Chyle and *Lympha*, had been as little known to us as our Predeceſſors, were it not for Diſſections made on the Bodies of ſeveral Animals. But I ſhall no more abuſe your Patience with theſe kind of Apologies, than I would omit owning an obligation incumbent on me, (which is) to beg your pardon for making an attempt, where you have given ſuch inſtances of your great Ability.**

This

This *Male Opoſſum*, as the *Female* you diſſected, was brought from *Virginia* and preſented to the *Royal Society*, by the ſame Benefactor, *William Bird* Eſq; and was alſo kept alive in their Repoſitory; but falling from its mear (like that you examin'd, I gueſs) it languiſhed and dyed: The cauſe of its Death appeared to be from a Mortification of the *Duodenum* immediately below the *Pylorus*, which ſeemed to ariſe from a quantity of Hay, that had been collected in the Stomach, and matted together in the ſhape you have deſcribed, and figured the * hairy *Tophus* you found in the Stomach of that you diſſected, but I could not find any hair in this; this wod of Hay ſlipping out of the Stomach ſtuck in the *Duodenum*, which together with the viſcid matter that involved it, compleatly obſtructed the Paſſage in that Gut, as well as that of the Gall into the Gut, which appeared from the Diſtention of the Liver as well as fullneſs of the Gall Bladder. The *Omentum*, which in this Creature is only faſtned to the bottom of the Stomach, had alſo ſuffered a *Gangrene*, as had almoſt the whole Canal of the Guts: but of this by the by, my deſign being only to give you an account (ſuch as it is) of thoſe Parts of the *Male*, which diſtinguiſh it from the *Female*.

* Phil. Tranſ. N. 239. Tab. 2. Fig. 4.

Beſides the Organs imploy'd in Generation, the *Male Opoſſum* differs externally from the *Female*, there being no *Marſupium* or Pouch to receive the young ones, which you have given ſo exact a deſcription of; nor are there any Muſcles inſerted to the Skin of the *Abdomen* ſpringing from the *Oſſa Marſupialia*, as you call the Bones, which may deſerve the Name of *Hyoides*, from the figure they make with the *Oſſa Pubis* of this Animal; which Bones do not ſeem to differ in the *Male*, from thoſe of the *Female* you have deſcribed and figured in the Tranſactions abovementioned.

There is no external appearance of Genitals in the *Male Opoſſum* but the *Scrotum*; which, is but juſt big enough

Fig. 1.

nough to contain the *Teſtes*; nor could I readily diſcover any other *Foramen* outwardly in theſe parts but the *Anus*,
Fig. 1. A. which leads to the *Rectum*; but on withdrawing its ſides, I found another *Foramen*, B. which on Diſſection appeared to be the *Præputium* or Out-let of the *Penis*. On compreſſing the parts on each ſide this *Cloaca*, A. B. I obſerved two Drops of yellowiſh colour'd Liquor (of the reſemblance of *Pus*) ſtart out on each ſide the *Anus*, c c. which on further examination I found come from two glandulous Bodies or Bags placed on the *Sphincter Muſcle* of this Part. This ſort of Liquor (it ſeems) you found in the Pouch of the *Female*, which, like this, had more of the peculiar *Fœtor* of this Animal, than any other part beſides; for on removing theſe Parts with the Skin about the *Cloaca*, I was freed from the ungrateful Smell of it. On ſeparating the Skin from the Muſcles of the *Abdomen*, the two above-mentioned Bones (peculiar, I believe, to this Animal) appeared, from whence ſome Muſcles ſprang, and were inſerted to the *Oſſa Femorum*, which performed the Office of the *Pſoas* Muſcles in other Animals, which laſt named Muſcles were much ſmaller in this than in other Creatures.

The *Abdominal Muſcles* were alſo faſtned to the laſt mentioned Bones, particularly the *Recti*, which enabled this Creature to project or ſpring its Body, eſpecially in pulling its hind Legs forward, with more advantage or force than other Animals, which are without theſe Bones.

Immediately under the Skin about the *Cloaca*, I found a thin fleſhy Muſcle, incloſing the *Præputium*, and lower parts of the *Rectum* and *Odoriferous Bags*, together with the
Fig. 2, 3. four *Mucous Glands*, M M N N. at the roof of the *Penis*, and body of the *Penis* it ſelf A; all which parts were liable to be compreſt by the Action of this Muſcle, eſpecially when the *Penis* is erected, whereby its Erection is ſuſtained, by compreſſing the two external Veins on the *Dorſum Penis*, of which more hereafter, when I come to

ſpeak

ſpeak of the manner the *Penis* of this Animal is erected. On removing this thin broad *Sphincter Muſcle*, I was obliged to clear away two Lumps of hard Fat before the Body of the *Penis* could be diſcovered; but we ſhall leave theſe Parts till we have cleared the *Teſtes*.

The *Scrotum* being remov'd, each Teſticle appear'd as repreſented on the left ſide Q T V. the *Vaſa præparantia* and *Deferentia* Q Q being incloſed in the *Cremaſter* Muſcles P P. Theſe Muſcles were proportionably very large in this Animal, as I have always obſerv'd them in Creatures, that have no *Veſiculæ Seminales*, which is the Caſe of this Animal, and this Proviſion of Nature ſeeems not only neceſſary to ſuſpend the *Teſtes*, but theſe incloſing *Cremaſter* Muſcles, alſo compreſs the *Epididymides* and *Vaſa Deferentia*, and oblige them to diſpatch their Contents (the *Semen*) into the *Urethra* in the time of the *Coition*, which otherwiſe would have a ſlow progreſs; but this contrivance appears more peculiarly requiſite in this Creature, becauſe the defect of the *Veſiculæ Seminales* here, ſeem to be ſupplyed by the largeneſs of the *Epididymedes* of the *Teſtes* W W which you know are the excretory Ducts of the *Teſtes*, and appear in this Animal to have a larger Bore than ordinary: For this reaſon the *Tunicæ Vaginales* are very ſtreight in this Animal, as appears in the Figure T V R R.

Fig. 2.

Fig. 2, 3.

Fig. 2.

On diſcovering the Originations of the Spermatick Arteries, I was ſurpriz'd to meet with an appearance I never heard of nor obſerved before; and in this I ſhould not have had any ſatisfaction, if I had not firſt injected Wax into the Trunks of the great *Artery* i i i, and *Vena Cava* h below the *Diaphragm*. It ſeems the deſcending Trunk of the great Artery, below the emulgent Arteries in this Creature, is placed directly under the Trunk of the *Vena Cava*, nor does the Iliack Branches of the Arteries here, twine about thoſe of the Veins, as in Human Bodies and ſome Quadrupeds, which is done perhaps to compreſs the Chanels of the Veins, by means of the Pulſation of theſe

Fig. 2

Ar-

Arteries to drive up the Blood in the Veins towards the Heart; but that contrivance ſeems no way neceſſary in this Animal, becauſe the contrary poſition of its Body is more cuſtomary in hanging by its Tail with its Head downwards: It is not unlikely, if the Veins of this Animal were examined below the Heart (which indeed I did not think of till thoſe Parts were thrown away) but we ſhould meet with ſome Contrivance to prevent the Precipitate Flux of the Bloud in that Pendulous Poſition, as I have obſerv'd in the Trunk of the *Cava* immediately above the Liver in Dogs. But to return to the Spermatick Veſſels.

Fig. 2. The Arteries a a ariſe from the forepart of the Deſcending Trunk of the Great Artery, and paſs through a very ſmall Perforation ..... made on purpoſe in the *Vena Cava*, and deſcend ſtraight to the *Teſtes*, as in Human Bodies, and are not contorted in their progreſs, as we find them in moſt, if not all Quadrupeds. This Perforation of the *Cava* perhaps was not only made for tranſmitting the Spermatick Arteries, but may alſo frame an *Anulus*, that may check the velocity the Bloud would otherwiſe have in thoſe Arteries, which rapid Motion of the Bloud we find Nature ſtudiouſly avoids in the *Teſtes* of all Animals: For in Men we ſee theſe Spermatick Arteries (contrary to all other Trunks of Arteries) are leſs at their Originations from the Great Artery; and in Quadrupeds (except in this) the Spermatick Arteries are contorted before they reach the *Teſtes*, as I have (*a*) elſewhere taken notice. The Spermatick Veins, after leaving the *Teſtes* of this Animal (like thoſe of Humane Bodies) have ſeveral Diviſions and Inoſculations, which are all reduced to one Trunk on each ſide, and empty themſelves into the *Cava* immediately above the Perforation b b.

(*a*) Phil. Tranſ. No 280. Pag. 1180.

Fig. 2.

Had the known Structure of the *Teſtes*, in relation to their Excretory ducts been left undiſcovered till now, the bare inſpection of thoſe parts in this Animal would inſtruct

Inſtruct us: for on dividing the *Tunica Vaginalis* (R R) Fig. 2, 3.
I found the incloſed Teſticle and its *Epididymis* lying looſe, inſomuch that they parted from each other as expreſt W X Y Z, and with the aſſiſtance of a pretty large Convex Glaſs I could ſee the *Excretory Duct* Z ariſing from one end of the Teſticle, where the Spermatick Artery and Vein Y may be ſeen: After that Duct has marcht a little way it may be ſeen folded up into the Body call'd *Epididymis* W W. and at length makes the *Vas Deferens* S S. You know in Men, and moſt, if not all Quadrupeds, the *Epididymides* and *Teſticles* cleave ſo to each other, that without ſome Dexterity in Diſſection the riſe of them from the *Teſtes* is not to be diſcovered. This proves to Us the Uſe of *Comparative Anatomy* in detecting the Structure of parts which is very Obſcure in other Subjects as well as in Humane Bodies; but to return to the *Vaſa Deferentia*, S S. after they leave the Fig. 1.
Præparantia a b, as in Men and other Creatures, they grow ſomewhat larger, but on croſſing the *Ureters* e e become leſs again at their Entrance into the *Urethra*, immediately below the Neck of the Bladder; where their Orifices could be perceived on each ſide a *Caruncle*: Nor are there any *Veſiculæ Seminales* near the *Vaſa Deferentia* of this Animal, as in Boars, Bulls, Horſes, *&c.* which nevertheleſs cannot be allowed to communicate with each other as in Men; for tho the *Vaſa Deferentia* and *Veſiculæ Seminales* of thoſe laſt named Animals empty themſelves into the *Urethra* at the ſame Orifices with the *Veſiculæ Seminales*, yet their Communicant Ducts are ſo very ſhort, that whatever comes by the *Vaſa Deferentia* will ſooner eſcape into the *Urethra*, than be received by the *Veſiculæ*, as in Men.

The length of the *Urethra* between the Bladder and the *Penis* exceeded four Inches, more than three Inches and an half of which was incloſed with a Glandulous Body, Analogous to the *Proſtates* in Men and other Crea-

tures; the Orifices of the Secretory Ducts of this Glandulous Body are very numerous, and open into the *Urethra* on all ſides, as appeared on opening the *Urethra*, and compreſſing this Glandulous Body or *Proſtatæ*, I ſaw its Secreted Juice ſtart out.

Fig. 2, 3. This part of the *Urethra* I K K L thus incloſed with the *Proſtates*, being very much contorted or folded, in its Natural Situation between the Bladder and the *Penis*, when there is no Erection, muſt neceſſarily be drawn out, and becomes ſtraight when the *Penis* is Extruded, (which I ſhall ſhew by and by happens upon an Erection) by which means this Glandulous Body is neceſſarily compreſt, and the *Succus Proſtatarum* forced into the *Urethra*. The *Proſtatæ* of divers Animals are compreſt by Muſcles fram'd on purpoſe that incloſe them, as in Boars, Rams, *&c.* in Men they are compreſt by the *Muſculi Levatores Ani*.

At the root of the *Penis* of the *Opoſſum* we meet with four Glandulous *Veſiculæ* M M N N two on each ſide, which empty themſelves into the *Urethra*, and contain a Mucous matter, like that I find in the Glands I lately diſcover'd in this part in Men. Theſe *Veſiculæ* are not only compreſt by the thin broad Sphincter Muſcle above mentioned, but the Bulbs of the Cavernous Bodies of the *Penis* C C, and *Urethra* E E, when diſtended (in the Erection of the *Penis*) alſo compreſs theſe mucous Bags. This compreſſion is effected in Men by the Intumeſcence of the Bulb of the Cavernous Body of the *Urethra* *. In Boars, Rams, Cats, *&c.* we find Nature ſo ſollicitous to diſcharge the contents of the Excretory Ducts of theſe Glands, that (like the Gizard of Birds) each Mucous Gland is incloſed with a proper Muſcle to compreſs it.

* Phil. Trans. N° 252. Pag. 509.

The *Penis* fell next under my Examination, the Fabrick of which appears not leſs ſurprizing, than that you met with in the *Uterus* of the *Female*; and in many circumſtances differ'd from what I have found in all the Animals that

that I have hitherto diſſected: Beſides the Forked *Glans* of its *Penis*, B B. its Cavernous Bodies D D had no Connection with the *Oſſa Pubis*, nor did the Muſcles call'd *Erectores* or *Directores* C C cleave to any Bone as in Men and Quadrupeds, but all thoſe parts lay looſe under the *Oſſa Pubis*. The other extremities of the two *Corpora Cavernoſa Penis* are received into the Glans. Nor did the *Corpus Cavernoſum Urethræ* e or its Muſcles E E cleave to the *Sphincter Ani*, as in moſt other Creatures, but the whole body of the *Penis* lay looſe between the bones of the *Pubis* and the *Rectum*, ſo that on the Intumeſcence or Erection of the *Penis*, it is at liberty to be extruded from its *Præputium*, wherein it is ſecured from outward injuries when not erected. To favour this Extruſion of the *Penis* in this Animal, the *Urethra* I K L is not only very long between it and the Bladder O O, but I found it much more contorted or folded in acuter Angles, than is expreſt in the Figures, elſe the *Penis* could not be extruded, but the Bladder O O muſt follow it. Beſides it appears, Nature deſign'd this extruſion of the *Penis* of this Animal in its Erection, becauſe we meet with Inſtruments to withdraw it again into the *Præputium*. f f G ſhews a pair of Muſcles elegantly framed for that purpoſe on the fore part of the *Penis*; they ariſe fleſhy from the *Corpora Cavernoſa Penis* D D, and becoming tendinous f f, as they paſs through two Ligaments or Pulleys on the *Oſſa Pubis*, and are afterwards united into one Tendon G, which is inſerted to the upper part or *Dorſum Penis*. Beſides this pair of Muſcles (which is peculiar perhaps to this Animal) I found another pair of Muſcles H H, that alſo withdraw the *Penis* ariſing from the *Rectum*, and are inſerted to the extremities of the *Corpora Cavernoſa Penis*: In Cats, Male Porpeſs, Bulls, Rams and Boars, we meet with two Ligaments ſpringing from the *Os Sacrum* or *Ilium* on each ſide, and inſerted to the *Corpora Cavernoſa Penis* of thoſe Animals,

Fig. 2, 3.

Fig. 3

Fig. 2.

Fig. 2, 3.

which like theſe Muſcles ſerve to withdraw the *Penis* of thoſe Creatures into the *Præputium*.

Fig. 2, 3. The *Corpora Cavernoſa Penis* of the *Opoſſum* differ in their figure from what we find in other Creatures; their upper parts are bulbous D D and covered with Muſcles C C like the Bulb of the Cavernous Body of the *Urethra* in Men: In other Animals, thoſe parts of the *Corpora Cavernoſa Penis* are of a Conical figure. The Muſcles of the Cavernous Bodies of the *Penis* of this Creature having no connection with the *Os Pubis*, cannot apply the *Dorſum Penis* to the laſt nam'd bone, and compreſs the Vein of the *Penis*, whereby to retard the Refluent Bloud, and cauſe an Erection, as we have obſerved in other Creatures; but ſome large Veins of the *Penis* here, take a different Courſe and Paſs through the middle parts of the Bulb
Fig. 4. K K C, and are only liable to the Compreſſion made by the Intumeſcence of theſe Muſcles C C, that incloſe them.

Fig. 2. But the chief Agent in continuing the Erection of the *Penis* in this Animal, is the *Sphincter* Muſcle of its *Anus*, or rather *Cloaca*, to which the broad *Sphincter Muſcle* above-mentioned is continued, and does ſomewhat contribute. When the *Penis* is extruded from the *Cloaca* (which muſt happen when it is erected) the *Sphincter* of that part neceſſarily embraces it, the like muſt be done by the *Sphincter Muſcle* of the *Cloaca* of the *Female* in Coition: On theſe accounts I am apt to think, theſe Creatures are not very quick in that Act. Beſides the figure of the *Penis*, Fig. 4. ſhews an unfitneſs for its retraction till there is a Detumeſcence of its *Glans* A B, which perhaps does not happen in theſe Creatures till both *Male* and *Female* are ſatiated, as in Dogs and other Animals that have Bones in their *Penis*, and have a *bulbous* Intumeſcence of the *Glans* in Coition, and no *Veſiculæ Seminales* as in this Animal, and alſo impregnate the *Female* with more than 2 or 3 at a time, as this does.

As

As the *Bulb* of the Cavernous Body of the *Urethra* in Man, is fram'd for the uſe of the *Glans*, to keep it ſufficiently diſtended when required, ſo it ſeems it is neceſſary to have two of thoſe *Bulbs* incloſed with their particular Muſcles E E in this Animal, to maintain the Turgeſcence of its doubled or forked *Glans* A B when the *Penis* is erected: In this diſtention of this *Glans Penis* of this Creature, the middle part of the Orifice of the *Urethra* (in which you ſee the Probe paſſing out of Fig 3.) is neceſſarily compreſt, as repreſented Fig. 4. D, and two diſtinct Apertures C C are left, as appears by the laſt mentioned Fig. 4. A B on each ſide its forked *Glans*. *Fig.* 2. *Fig.* 4.

They that fancy an *Aura Seminalis* of the Male, paſſes by the way of the Bloud of the Female to their *Ovaria* to fæcundate the *Ova*, will here meet with an Inſtance I muſt leave them to ſolve. For to what end has Nature been at the trouble of making double Emiſſaries for the *Semen* of the Male *Opoſſum*, tho ſhe deſign'd the Impregnation of a double *Uterus* of the Female? Certainly one paſſage in the *Glans Penis* would have been ſufficient to convey the *Semen Maſculinum* to the Maſs of Bloud of the *Female* in the manner they conceive. Nature would never have been at the trouble of all this Clutter in this Animal, in making a double *Glans*, and contriving two diſtinct Apertures in the *Glans*, when its *Penis* is erected, if the Propagation of the Species had not depended on't: Doubtleſs 'twas for that end chiefly, that the *Penis* of this Animal differs ſo much from what we meet with in other Creatures. Nor could the *Penis* of this Animal in theſe Circumſtances, be expos'd in a *Præpuce*, as in other Quadrupeds, by reaſon of the numerous Accidents that would certainly attend it in this Animals way of living: Nor could its *Penis* been thus withdrawn, when not erected and ſufficiently extruded, when it is if (as in other Creatures that are retromingent alſo) the *Penis* here had been faſtned to the *Oſſa Pubis*.

Thus,

Thus, Sir, we ſee Nature in theſe Inſtances, as you muſt have frequently taken notice of in others, accompliſh the ſame ends by different Methods. Although there are no *Veſiculæ Seminales* in this Animals, as in Dogs, Weaſels, *&c.* yet we find its *Penis* without a Bone in it, as in thoſe Creatures; but then we meet here with additional Contrivances to maintain its Erection: Not only
Fig. 3. the *Sphincter* Muſcle of the *Cloaca* of the *Male Opoſſum*, but that of the *Female* alſo cloſely embraces its *Penis* in Coition, and effectually retard the refluent Bloud from its
Fig. 4. *Corpora Cavernoſa*, by compreſſing the Veins of the *Penis* E. Nor could the *Penis* of this Animals be fram'd like that in Boars, Rams, Bulls, *&c.* in whom the *Corpora Cavernoſa* are too large, when not erected, to be ſecured within the *Cloaca* of this Animal. If in this I have been tedious, it may be ſome excuſe, I had not time to make it ſhorter. Who am,

Your Obliged Humble Servant,

William Cowper.

The Explanation of the Figures.

Fig. 1.

SHews the external appearance of the Genitals of the *Male Opoſſum*, ſomewhat leſs than the Life.

A B c c. The *Anus* or *Cloaca*. A its lower part which leads to the *Rectum*. B its upper part or Orifice of the *Præputium*, whence the Urine and *Penis* is extruded. c c. Two ſmall Apertures, whence the yellowiſh colour'd Liquor, that had the peculiar *Fœtor* of the Animal, had its Exit.

D. The

D. The *Scrotum* juſt large enough to contain the *Teſtes*.

E. That part of the *Abdomen*, where the *Marſupium* is ſeen in the *Female*, which here appears a little more depreſt than in other Animals, but cannot retain the young ones, as does the Pouch of the *Female*.

F F. The two Thumbs of the hind Feet, or Hands.

Fig. 2.

The fore parts of the Organs of Generation diſſected from the *Male Opoſſum*; done as big as the Life.

A A. The Body of the *Penis*.

A B. The forked *Glans*

C C. The Muſcles Analogous to the *Directores Penis* in Men and other Creatures, which here incloſe the *Bulbi* of the Cavernous Bodies of the *Penis*.

D D. The two *Corpora Cavernoſa Penis* before they joyn and make the Body of the *Penis*.

E E. Parts of the two Bulbs of the Cavernous Body of the *Urethra*.

G f f. A pair of Muſcles, whoſe two Tendons f f paſs through two Ligaments or Pulleys on the *Oſſa Pubis*, and are afterwards united into one Tendon G. inſerted to the *Dorſum Penis*, and ſerve to draw the *Penis* within the *Cloaca* after an Erection.

H H. Two other Muſcles which ſerve for the ſame Uſe, and ariſe from the *Rectum*, but are fixt to the oppoſite part of the *Corpora Cavernoſa Penis*.

I. The *Urethra* where it has no Glandulous Body incloſing it.

K K. The *Proſtratæ* or *Corpus Glandoſum*, incloſing the *Urethra*, which lyes contorted between the *Penis* and Bladder of Urin in the *Pelvis* of the *Abdomen* of this Animal.

M N. Two Mucous bags on each ſide, at the root of the *Penis*, which empty themſelves into the *Urethra*.

O O. The Bladder of Urine.

P P. The *Muſculi Cremaſteres*.

Q Q. The left *Cremaſter* Muſcle incloſing the *Tunica Vaginalis*.

R R. The *Tunica Vaginalis* of the right ſide, opened to ſhew the incloſed *Vaſa Præparantia* and *Vas Deferens*.

S S. The *Vas Deferens*.

T V. The *Tunica Vaginalis* incloſing the left *Teſticle*, with its *Epididymis* V.

W X Y Z. The right Teſticle, as it appear'd on opening the *Tunica Vaginalis*.

W. Its *Epididymis*.

X. The Body of the Teſticle.

Y. The Spermatick Vein and Artery as they paſs to and from the Teſticle.

Z. The excretory Duct of the Teſticle, which could be diſtinctly ſeen ariſing from the *Teſtes* and marching to the *Epididymis* W. where it is folded up and conſtitutes that Body, whence it is continu'd to the Bladder of Urin, and call'd *Vas Deferens* S S.

a a. The Spermatick Arteries ariſing from the fore part of the deſcending Trunk of the *Artera Magna*, where they have a common *Ductus*, which is divided as it paſſes through an Aperture * made on purpoſe in the Trunk of *Vena Cava*.

b b. The Spermatick Veins at their entrance into the *Cava*.

d d. The Kidneys.

e e. The Ureters.

g g. The Emulgent Veins.

☥ Part of the left Emulgent Artery.

h. The *Vena Cava* below the Liver.

i i. The deſcending Trunk of the Great Artery.

k k. The Meſenterick Arteries.

l. The lower Meſenterick Artery, which in this Animal does not ariſe from the Great Trunk.

m. The left *Glandula Renalis*, that of the right ſide being placed behind the Trunk of the *Vena Cava* n.

o. A

o. A common Trunk of an Artery, from whence ſprings the Gaſtrick, the Superior and Inferior Meſenterick, and the Emulgent Arteries of this Animal. The deſign of Nature in confining all thoſe Arteries to one Trunk in this Animal, might be perhaps in favour of its uſual poſture in hanging by its Tail, with its head downwards. This Trunk of the Arteries of the *Viſcera* of the lower Belly, having ſo many united forces, is the leſs liable to any Compreſſion that might be made by the contain'd parts of the lower Belly in that Poſture.

Fig. 3.

The back ſide of the Genitals of the *Male Opoſſum.*

A. The Body of the *Penis.*

B. Its *Glans.*

C C. The *Bulbi* of the *Corpora Cavernoſa Penis* covered with their Muſcles.

D D. The *Corpora Cavernoſa Penis.*

E E.... The two diſtinct *Bulbs* of the Cavernous Body of the *Urethra,* incloſed with their particular Muſcles.

F F G. Parts of the Muſcles expreſt on the fore part of the *Penis* in the preceding figure.

H H. The other pair of Muſcles ſpringing from the *Rectum,* and inſerted to the ſides of the *Corpora Cavernoſa Penis.*

I K L. The *Urethra* covered with the *Proſtatæ* K L K.

M N. The two Mucous Bags on each ſide.

O. The Bladder of Urine.

P. The *Muſculus Cremaſter.*

Q. The *Tunica Vaginalis* open'd.

R. *Vaſa Præparantia* cut from the great Trunks.

S S. The *Vas Deferens* on each ſide.

W X Y Z. The left Teſticle, as in the preceding figure, with the oppoſite ſide here towards you.

e e Parts of the Ureters.

* * A Probe inſerted into part of the *Urethra.*

Fig. 4.

The fore part of the *Penis*, as it appears when its *Corpora Cavernoſa* are fill'd with Mercury and dry'd; figur'd as big as the Life.

A B. Its forked *Glans*.

C C .... The two diſtinct apertures that appear in this Diſtention or Erection of its *Corpora Cavernoſa*.

D .... The middle part of the Orifice of the *Urethra*, which is occluded on the Intumeſcence or Erection of the *Penis*.

E E .... The two Veins of the *Glans*, which are compreſt by the two *Sphincter Muſcles* of the *Male* and *Female* in Coition.

F. The Bulbs of one of the Cavernous Bodies of the *Penis* diſtended.

G. One of the Bulbs of the Cavernous Body of the *Urethra* alſo diſtended.

Theſe *Bulbi* were open'd on the other ſide, ☿ to fill the Cavernous Bodies with Quick-ſilver, but are all expreſt as they ought to appear on both ſides in the following Figure.

H. The *Urethra*.

I. The Muſcles dryed, expreſt Fig. 2 and 3. F F f f G.

K k. The Veins tyed up to keep in the Mercury, as they paſs the Muſcles of the *Bulbi*.

Fig. 5.

The back part of the *Penis* expreſt in the preceding Fig.

A B. Its forked *Glans*.

E E. Parts of the Veins ariſing from the *Glans*.

F F. The Bulbs of the Cavernous Bodies of the *Penis*.

G G. The two Bulbs the Cavernous Body of the *Urethra*.

H. The *Urethra*.

K K k k. The Veins tyed up, as they paſs out of the *Bulbi* to keep in the Mercury.